

1936?

SPECIAL REPORT

FIELD TESTS OF FOOD AND DRUG ADMINISTRATION SAMPLE NO. 45248 B
ON MATURE SCREW WORM (COCHLIOMYIA AMERICANA C. & P.) LARVAE IN
WOUNDS IN GOATS, VALDOSTA, GEORGIA.

(Drs. McGovern and Ellisor)

Sample No. 45248 B was received on October 22, 1935 with container properly sealed with the Food and Drug Administration paper seals. This material was shipped by the S.W.K. Company, Inc., (L.O. Dasher) Valdosta, Georgia.

The chemical analysis as determined by W.J. Morgan, IC No. 10405 was: "This sample consists of coal tar neutral oils and phenols, soap and water.

Water	66.5%
Sodium Oxide (Na ₂ O)	0.9%
Rosin and Fatty Anhydride	5.9%
Coal Tar Phenols	1.6%
Coal Tar Neutral Oils (by diff.)	25.1%
Un sulfonated	trace
Carbolic acid	none."

The material used in these tests was taken from the container as soon as the seal was broken and the container resealed. The material used in this series of tests was kept in a closed glass container and was kept free from adulteration.

HOW THE TESTS WERE MADE:

Goats were artificially wounded on the right hip and infested with screw worm larvae. Between 125 and 250 larvae were allowed to develop in each wound until all were nearly mature and a few had fully matured and dropped from the wound in most cases. The animal was held and about 10 cc of sample No. 45248 B was squirted into the wound with a small syringe. The animal was held in such a position that the material applied stood in the wound for 2 minutes and none of it was permitted to run out

SPECIAL REPORT

FIELD TESTS OF FOOD AND DRUG ADMINISTRATION SAMPLE NO. 45348 B
ON NATURE SCREW WORM (COCHYLIDIA AMERICANA G. & P.) LARVAE IN
WOUNDS IN GOATS, VALDOSTA, GEORGIA.
(Drs. McGowan and Elliott)

Sample No. 45348 B was received on October 22, 1935 with container
properly sealed with the Food and Drug Administration paper seals. This
material was shipped by the S.W.K. Company, Inc., (L.O. Dasher) Valdosta,
Georgia.

The chemical analysis as determined by W.T. Morgan, IC No. 10405
was: "This sample consists of coal tar neutral oils and phenols,
soap and water.

Water	66.2%
Sodium Oxide (Na ₂ O)	0.9%
Sodium and Potassium Hydroxide	5.9%
Coal Tar Phenols	1.0%
Coal Tar Neutral Oils (by diff.)	25.1%
Unidentified	trace
Carbolic acid	none.

The material used in these tests was taken from the container as
soon as the seal was broken and the container resealed. The material
used in this series of tests was kept in a closed glass container and
was kept free from adulteration.

HOW THE TESTS WERE MADE:

Goats were artificially wounded on the right hip and infested with
screw worm larvae. Between 125 and 250 larvae were allowed to develop
in each wound until all were nearly mature and a few had fully matured
and dropped from the wound in most cases. The animal was held and about
10 cc of sample No. 45348 B was squirted into the wound with a small
syringe. The animal was held in such a position that the material applied
stood in the wound for 2 minutes and none of it was permitted to run out

during this time. While the material was in the wound the edges of the wound were pressed with the fingers to facilitate the penetration of the material into the wound and among the larvae. At the end of two minutes the animal was released in a collecting cage. These cages were so constructed that any larvae that dropped from the wound after the treatment was applied were collected in sand. Any larvae that were collected in these cages were kept in sand under favorable conditions of temperature and moisture until adult flies emerged or the larvae had disintegrated or dried up.

RESULTS OBTAINED:

When sample No. 45248 B was applied to the wound the screw worm larvae became very active for a few seconds and then became motionless. These motionless larvae remained in the wound. Three animals each with an infested wound were treated with the following results:

Table 1 -- Results of treating screw worm (*C. americana* CoP) larvae in wounds with Food and Drug Administration Sample No. 45248 B

		Emergence of flies from larvae collected						
			3	1	2	3		
	B.E.P.	hrs.	day	days	days			
	Q.F.L.	Before	after	after	after	after	Total	
	Test	treat-	treat-	treat-	treat-	treat-	after	
Date of test	Number	ment	ment	ment	ment	ment	treatment	
Nov. 6, 1935	87	8	106	0	0	0	106	
Nov. 19, 1935	77	15	5	2	1	0	8	
Dec. 17, 1935	109	72	0	0	1	0	1	
Total of three tests		95	111	2	2	0	115	

The average number of flies emerging from the treated larvae from the three wounds treated with Food and Drug Administration Sample No. 45248 B

was 38.3 flies per wound. The average number of flies emerging from the treated larvae from three wounds (B.E.P.Q.F.L. Tests Nos. 71, 79 and 107) treated with benzol and a cotton plug, which is the treatment recommended by the Bureau of Entomology and Plant Quarantine, was 1.0 fly per wound. The average number of flies emerging from larvae from three untreated wounds (B.E.P.Q.F.L. Test Nos. 21, 85 and 87) was 135.0 flies per wound.

SUMMARY

Food and Drug Administration Sample No. 45245 B when applied to wounds in goats infested with screw worm (C. americana C&P) larvae gave an estimated kill of 71.2% of the larvae. Benzol and a cotton plug gave an estimated kill of 99.3% of the larvae.

was 20.5 flies per wound. The average number of flies emerging from the treated larvae from three wounds (B.P.V.I. Test Nos. 71, 72 and 73) treated with benzol and a cotton plug, which is the treatment recommended by the Bureau of Entomology and Plant Quarantine, was 1.0 fly per wound. The average number of flies emerging from three untreated wounds (B.P.V.I. Test Nos. 81, 82 and 83) was 133.0 flies per wound.

SUMMARY

Food and Drug Administration Sample No. 43265 B when applied to wounds in goats infested with screw worm (*C. americanus* OCP) larvae gave an estimated kill of 71.2% of the larvae. Benzol and a cotton plug gave an estimated kill of 99.8% of the larvae.

TREATMENT		No. of flies emerging	
Untreated	Wound 1	133	133
	Wound 2	133	133
Benzol and cotton plug	Wound 3	1	1
	Wound 4	1	1
Food and Drug Administration Sample No. 43265 B	Wound 5	1	1
	Wound 6	1	1
Total		268	268

The average number of flies emerging from the treated larvae from the Food and Drug Administration Sample No. 43265 B was 1.0 fly per wound.